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14. ABSTRACT In the article Achieving Outcomes-Based Life Cycle Management (Defense Acquisition Review Journal, Vol. 17, January 2009), the authors traced the history of DoD acquisition reform efforts and highlighted the dramatic geo-political changes that impact the acquisition process. The authors provided three recommendations to enhance US life cycle agility and affordability to posture the DoD life cycle processes to meet the demands of the 21st Century &#56256;&#56451; Effects-based requirements &#56256;&#56451; Commercially driven research and development, and &#56256;&#56451; Outcome-based partnership life cycle product support. Since that effort, the DoD and Congress have moved forward with several policylevel efforts, directed towards enhancing accountability and agility over the life cycle including &#56256;&#56451; Weapon System Acquisition Reform Act implementation &#56256;&#56451; Insourcing &#56256;&#56451; Product Support Assessment Team &#56256;&#56451; National Defense Authorization Act, Section 805, and &#56256;&#56451; HASC Panel on Defense Acquisition Reform This paper reviews those recent policy efforts and assesses the potential impact of those efforts on the inherent, structural incentives that are embedded in DoD life cycle processes. The paper provides several recommendations for policy implementation to further enable life cycle agility and affordability.					
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Achieving Life Cycle Capability: Ensuring Capability for Today and Tomorrow

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Abstract

In the article *Achieving Outcomes-Based Life Cycle Management* (*Defense Acquisition Review Journal*, Vol. 17, January 2009), the authors traced the history of DoD acquisition reform efforts and highlighted the dramatic geo-political changes that impact the acquisition process. The authors provided three recommendations to enhance US life cycle



agility and affordability to posture the DoD life cycle processes to meet the demands of the 21st Century:

- Effects-based requirements,
- Commercially driven research and development, and
- Outcome-based partnership life cycle product support.

Since that effort, the DoD and Congress have moved forward with several policy-level efforts, directed towards enhancing accountability and agility over the life cycle, including:

- *Weapon System Acquisition Reform Act* implementation,
- Insourcing,
- Product Support Assessment Team,
- *National Defense Authorization Act*, Section 805, and
- HASC Panel on Defense Acquisition Reform

This paper reviews those recent policy efforts and assesses the potential impact of those efforts on the inherent, structural incentives that are embedded in DoD life cycle processes. The paper provides several recommendations for policy implementation to further enable life cycle agility and affordability.

Introduction & Background

In the article *Achieving Outcomes-Based Life Cycle Management*, the authors summarized 60 years of acquisition reform efforts and concluded that incremental reform efforts are insufficient to enable the agility and efficiency required by the current national security environment. The geo-political environment of the 21st century is dramatically different than the post-World War II environment (that enabled the current acquisition process), as summarized in Table 1. Those differences required a fundamental re-assessment of DoD life cycle principles.



Table 1. Prior Acquisition Reform Efforts

	Acquisition and Logistics Characteristics		Acquisition and Logistics Outcomes		
Reform Effort	Strengths	Weaknesses	Capability	Agility	Efficiency
Packard Commission	Attention to acquisition streamlining	Expensive, lengthy acquisitions continue	YES	NO	NO
Specs/Std's Reform	Best commercial practices	Modernization "death spiral"	YES	NO	NO
JCIDS	Capabilities based on joint warfighter needs	Disconnect between born joint and employed joint	YES	NO	NO
<i>The Acquisition Reform Act of 2009</i>	- Independent cost estimates - Strengthened oversight - Improved DoD workforce	-No inherent performance incentive -“Inspect in” Program Stability	YES	NO	NO
Product Support Assessment Team (PSAT)	-DLA -JSCA -Government & Industry Partnership	- Extended BCA Process -Extended Peer Review -Shortened Contract length	YES	NO	NO
<i>National Defense Authorization Act, Section 805</i>	-Outcome Focused -Enhanced Accountability -Improved Workforce	Limited Metrics	YES	NO	NO
<i>2010 Quadrennial Defense Review</i>	-Identifies need for improving and sustaining workforce -Promotes military-commercial dual use technology use	-Further reviews = Increased oversight -review process includes parties with “no skin in the game”	YES	NO	NO
Future Strategies					
Effects-based Requirements	Innovation and industry competition		YES	YES	YES
Commercially Driven R&D	Leverage commercial R&D		YES	YES	YES
Industry Provided Outcome-based LCPS	Successful partnerships with DoD providers		YES	YES	YES

Those core differences were noted by Secretary Gates:

What we need is a portfolio of military capabilities with maximum versatility across the widest possible spectrum of conflict. As a result, we must change the way we think and the way we plan, and fundamentally reform the way we do business and buy weapons. It simply will not do to base our strategy solely on continuing to design and buy, as we have for the last 60 years, only the most technologically advanced weapons to keep up with or stay ahead of another superpower adversary, especially one that imploded nearly a generation ago. (Gates, 2009)

Based upon those differences, the authors concluded that the DoD required life cycle management processes that built upon inherent incentives and competition and enabled for greater agility and efficiency (affordability). The authors proposed three fundamental reforms:

- Effects-based requirements,



- Commercially driven research and development, and
- Outcome-based partnership life cycle product support.

Since that publication, the DoD and Congress have initiated several reform efforts. The question to be assessed is, “Do current reform efforts enhance agility and affordability?” Key criteria to address that question include:

- Recognition and migration to a warfighter driven, effects-based requirements process;
- Enablement of a more commercial-like R&D model, where industry has a vested interest in moving through product development quickly;
- Outcomes-based sustainment models that provides required readiness at reduced costs;
- Competitive industrial base that naturally fosters innovation and agility; and
- Life cycle workforce that includes the appropriate core competencies in sufficient strength.
-

The authors reviewed ongoing reform efforts against those key criteria. Ongoing efforts included:

- *Weapon System Acquisition Reform Act of 2009*,
- Insourcing,
- Product Support Assessment Team,
- FY2010 *National Defense Authorization Act*, Section 805, and
- HASC Panel on Defense Acquisition Reform (Interim Findings and Recommendation).

These major reform efforts are summarized below.

Acquisition Reform Initiatives

The *Weapon Systems Acquisition Reform Act of 2009 (WSARA)*

On May 22, 2009, President Obama signed the *Weapon System Acquisition Reform Act*, marking an important step in the procurement reform process. The objective of the 2009 *Weapons System Acquisition Reform Act* is to eliminate some of the waste and inefficiency in defense projects. The *Reform Act* targeted improving the DoD’s ability to efficiently and effectively provide the warfighter with necessary weapons and equipment through the following provisions (Levin, 2009):

- Assessing the extent to which the Department has in place the systems engineering capabilities needed to ensure that key acquisition decisions are supported by a rigorous systems analysis and systems engineering process.
- Establish organizations and develop skilled employees needed to fill any gaps in such capabilities.



- Require the DoD to reestablish the position of Director of Developmental Test and Evaluation.
- Require the military departments to assess their developmental testing organizations and personnel, and address any shortcomings in such organizations and personnel, making it the responsibility of the Director of Defense Research and Engineering (DDR&E) to periodically review and assess the technological maturity of critical technologies used in MDAPs. The DDR&E's determinations would serve as a basis for determining whether a program is ready to enter the acquisition process.
- Establish a Director of Independent Cost Assessment to ensure that cost estimates for major defense acquisition programs are fair, reliable, and unbiased.
- Require the Joint Requirements Oversight Council (JROC) to seek and consider input from the commanders of the combatant commands in identifying joint military requirements.
- Require consultation between the budget, requirements and acquisition stovepipes—including consultation in the joint requirements process—to ensure the consideration of trade-offs between cost, schedule, and performance early in the process of developing major weapon systems.
- Require the completion of a PDR and a formal post-PDR assessment before a major defense acquisition program receives Milestone B approval to ensure a sufficient knowledge base as well as to ensure technological maturity and avoid “a long cycle of instability, budget and requirements changes, costly delays and repeated re-base lining.”
- Require the Department of Defense to implement competitive prototyping, dual-sourcing, funding of a second source for next generation technology, utilization of open architectures to ensure competition for upgrades, periodic competitions for subsystem upgrades, licensing of additional suppliers, government oversight of make-or-buy decisions—to maximize competition throughout the life of a program, periodic program reviews, and requirement of added competition at the subcontract level.
- Enhance the use of *Nunn-McCurdy* as a management tool by requiring MDAPs that experience critical cost growth: (a) be terminated unless the Secretary certifies (with reasons and supporting documentation) that continuing the program is essential to the national security and the program can be modified to proceed in a cost-effective manner; and (b) receive a new Milestone Approval (and associated certification) prior to the award of any new contract or contract modification extending the scope of the program.
- Prohibit systems engineering contractors from participating in the development or construction of the major weapon systems on which they are advising the Department of Defense.
- Require tightened oversight of organizational conflicts of interests by contractors in the acquisition of major weapon systems.
- Establish an annual awards program—modeled on the Department's successful environmental awards program—to recognize individuals and teams who make



significant contributions to the improved cost, schedule, and performance of defense acquisition programs.

Congress intended to build on and strengthen its previous reform efforts by tightening regulations designed to foster competition and by requiring termination of programs that run over-budget and attempt to change how major defense acquisition programs are acquired. Congress and the administration heralded the legislation as a much-needed fix to the Pentagon's acquisition process.

The DoD is moving forward with *WSARA* implementation. As those efforts unfold, some suggest that *WSARA* may exacerbate some of the problems the act was intended to rectify by duplicating existing regulations with additional layers of bureaucracy and an oversight that could slow even further a system that already lacks agility and responsiveness (Erwin, 2010).

Furthermore, the act appears to increase the probability that weapons programs that breach *Nunn-McCurdy* legislation will be terminated when they exceed their projected costs by 25%. Missing from the act is any acknowledgment of the DoD's role in making changes to programs, adding requirements, and/or demanding additional conditions on the development of the weapons system that caused costs to rise (Goure, 2009).

The above concerns may be valid, but with only a year of implementation, little empirical evidence exists to ascertain the effectiveness of *WSARA* in enhancing agility and affordability. The act does provide guidance concerning COCOM engagement with the requirements process, broader competition (and enablers) for system development and upgrades, and enhanced acquisition workforce. The potential benefits of the structural aspects of the act may be illuminated by comparing the DoD's recent efforts on the Mine Resistant Ambush Protected (MRAP) vehicles and the ongoing Joint Light Tactical Vehicle (JLTV) program.

In February 2005, the United States Marine Corps (USMC) identified an urgent operational need in Iraq and Afghanistan for armored tactical vehicles to increase crew protection and mobility of Marines operating in areas containing improvised explosive devices (IEDs), rocket-propelled grenades, and small arms fire (Sullivan, 2008). The ensuing MRAP acquisition program established minimal operational requirements and relied heavily on commercially available products (Sullivan, 2008). The development of MRAP significantly reduced the IED threat to United States ground forces operating in Iraq, swiftly and effectively. Within two years of program start, more than 16,000 vehicles were produced at rates occasionally exceeding 1,000 vehicles per month (Sullivan, 2008).

In comparison, the Joint Light Tactical Vehicle program was developed in response to similar threats and was intended to be the successor to the 11 different versions of the High Mobility, Multi-Wheeled Vehicle (HMMWV) (Feickert, 2009). In late 2006, the DoD launched a major procurement initiative. Seven industry teams conducted initial design efforts: AM General and General Dynamics Land Systems, BAE Systems, Cadillac Gage, Force Protection, Lockheed Martin, Oshkosh and Protected Vehicles. The program acquisition strategy employed competitive prototyping, which resulted in three teams brought forward into a prototype phase (as contracted to the MRAP that were immediately procured).

As MRAP was fielded and the JLTV prototypes emerged, military leaders refined their requirements for JLTV, requesting a tactical mobile vehicle with traditional combat capabilities. The extended prototype phase afforded the Services the opportunity to exert



requirements creep. As a result, payload requirements have increased for most of the Army variants, including the utility vehicle, up 200 pounds to 5,500; the command vehicle, up 880 pounds to 5, 100; and the ground maneuver vehicle, up 400 pounds to 6, 700 (Osborn, 2007). Other added requirements include:

- Make 30 kilowatts of electricity,
- Tow a trailer with ammunition and supplies,
- Carry more ammo,
- Increase fuel efficiency to 90 ton-miles per gallon at maximum gross vehicle weight,
- Be equipped with the A-kit armor and add on option to add a B-kit that includes a gunner's protective shield, and
- Be able to run on two flat tires and keep going after a small-arms attack.

Unlike the MRAP program, the JLTV program did not integrate the available components and COTS subsystems early in the process. The Services continue to modify subsystems to meet additional requirements or develop new technologies and lengthen the system's acquisition schedule. This contrast in approaches to requirements determination and acquisition strategy results in the development timelines shown in Figure 1.

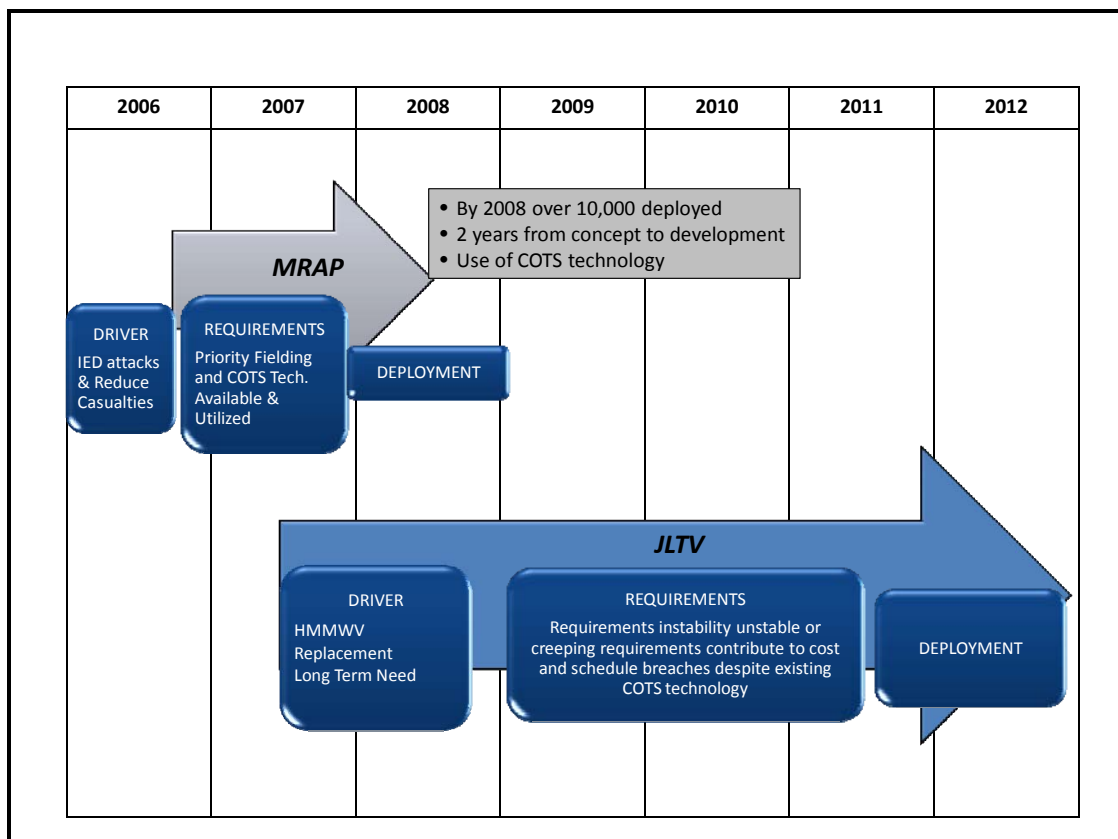


Figure 1. MRAP & JLTV Program Timelines

The extended development timeline for JLTV results in additional requirements for the Army to reset/recapitalize HMMWVs returning from Iraq as a gap filler. The recent



HASC Panel on Acquisition Reform chided the DoD on its extended development timeline; however, the DoD and Congress need to evaluate and rationalize their desires for rapid acquisition and competitive prototyping.

The USMC Unmanned Aerial Re-supply (UAR) effort may provide an illustrative example for future consideration. The UAR program was initiated in spring 2008 in response to an urgent operational requirement to provide vertical supply distribution in Iraq with requirements focused on lift capability and endurance. The program will become a force multiplier and lessen casualties by reducing USMC ground convoy logistics requirements. The USMC awarded a competitive fly-off of existing capabilities in 2009, which will be followed by industry proposals. The USMC intends to select a UAR vehicle by late 2010 and obtain industry-provided service capability by early 2011. From requirements to capability, a total time of approximately 28-30 months is achievable. Naval Air Systems Command is assessing acquisition strategy alternatives that include a traditional development and production options. Such an approach would delay fielding existing capabilities.

Insourcing

By the *Weapon System Acquisition Reform Act of 2009*, the United States Congress reversed two decades of acquisition workforce reduction. The act includes explicit requirements to “strengthen the DoD program management, systems engineering, cost analysis, and contract administration workforce.” The act also requires the DoD to “insource” program management and acquisition support functions that had been previously contracted out.

To fulfill the requirements of the act, the DoD resourced 20,000 additional acquisition positions in its FY10 budget. The Office of the Secretary of Defense also issued guidance on the insourcing process, including specific acquisition functions and broader contract services. The guidance anticipates the insourcing process will proceed through 2012 with concentration on acquisition management positions.

In a recent paper by the Federal Acquisition Innovation and Reform Institute (FAIR), the authors advise a deliberate and systematic approach to insourcing, based on facts and analysis, to include business case analysis and full consideration of inherently governmental positions, as well as core competencies. The paper further recommends careful assessment of federal pay scales to ensure competitive recruiting (Sharma, 2009).

The concerns noted by FAIR appear justified based upon the recent injunction by the Federal District Court of San Antonio to stop an Air Force insourcing of audio/visual support, which had been provided by Rohmann Services, Inc., a small business. The Rohmann Services, Inc., suit contended the Air Force used inaccurate cost estimates to justify the insourcing, and the cost analysis failed to include government overhead, benefits, and overtime (Hendricks). The Air Force now has opted to recomplete the contract of August 2010.

The Defense Science Board (DSB) study on integrating commercial systems into the DoD provides additional insights into the future requirements of the DoD workforce. As the DoD and Congress move to accelerate development timelines, one reasonable approach is greater reliance on commercially available systems and subsystems (DSB, 2009). The DSB study highlighted the wide dispersion of how commercial solutions are acquired across the DoD. In some cases, DoD design authorities rigidly enforced long-standing (military) design



specifications, which drove major changes to COTS equipment. If the DoD is to capitalize on a competitive commercial market, insourcing efforts must allow for commercially savvy acquisition personnel to join the federal workforce.

Finally, the focus on acquisition “insourcing” has been extended by the Air Force to include weapon system sustainment tasks. Recent statements by the Secretary of Air Force indicate a clear desire to “insource” both product support integration and supply chain management functions. This stated desire is based on a perception that the Service is losing its product support capability. These statements are inconsistent with current DoD policy, FY10 NDAA Section 805 provisions, and best practices, as demonstrated by ongoing performance-based partnership programs.

DoD Product Support Assessment Team (PSAT)

In September 2008, a DoD Product Support Assessment Team (PSAT) was formed to analyze DoD product support enterprise activities, performance, and cost, and to outline actions for a way ahead for life cycle product support management (Deputy Under Secretary of Defense, 2008). The team completed an assessment of overall and program-specific progress in capturing, managing, and reducing weapon system support costs while maintaining necessary readiness levels and mitigating sustainment risk (PSAT, 2009).

The PSAT found that DoD product support is characterized by a dependence on transactional-based systems and processes, inadequate human capital, organizational challenges, and a lack of shared goals (PSAT, 2009). Additionally, the PSAT study found that performance-based (outcome-based) product support strategies with government-industry partnering, have delivered superior materiel readiness across multiple weapon system applications. The PSAT provided eight principle recommendations (PSAT, 2009):

- Adopt a product support business model that drives cost effective performance and capability for the warfighter across the weapons system life cycle and enables the most advantageous use of an integrated defense industrial base;
- Align and expand the collaboration between government and industry that produces best-value partnering practices, both within and beyond the depots;
- Connect platform product support strategies to enterprise supply chain approaches that produce best value across the DoD components;
- Improve weapons system governance so sustainment factors are better considered early and consistently across a weapons system life cycle;
- Develop an overarching DoD sustainment metric and management strategy for life cycle product support that strengthens formal data collection and analysis capabilities while providing insight and learning to support life cycle planning and operational management;
- Make life cycle affordability a core business process for all communities and stakeholders involved in system acquisition and sustainment;
- Clarify and codify policies and procedures pertaining to the use of analytical tools in the life cycle product support decision-making process; and
- Integrate product support competencies across the logistics and acquisition workforce domains to institutionalize successful traits of an outcome-based culture.



The DoD is moving forward with implementing the PSAT recommendations. As that implementation proceeds, the requirements for greater scrutiny and competition for service contracts are also being implemented. These simultaneous implementations create conflicting pressures that are evidenced by:

- Extended timelines to conduct, review, and approve business case analyses;
- Extended peer reviews at the Service and OSD level; and
- Reduce contract lengths to enable continuous re-competitions.

As these pressures unfold, the DoD is refining its performance-based partnerships for programs such as the C-17 and F-22. The refinements of the C-17 and F-22 platform-level PBL sustainment strategies were both preceded by business case analyses (BCAs). Both BCAs documented difficulties in characterizing future performance for sustainment options, accurately capturing government costs, and estimating potential transition costs. As a result, the USAF requested an independent assessment of both BCAs by OSD.

Both programs have been designated as lead programs for implementing the PSAT recommendations. The work share between government and industry is currently being evaluated for both programs, and transition plans are being developed. The key issue to be addressed through the transition is to retain an outcomes-based strategy for both programs as work (and responsibility) is re-aligned to the Air Force.

Life Cycle Management and Product Support: The *National Defense Authorization Act*, Section 805

Section 805 of the 2010 *Authorization Act* provided statutory guidance on life cycle management, including the requirement for a product support manager for all major systems, maximize competition at the system, subsystem, and component level, and outcome-focused product support strategies. The product support manager shall be responsible for (House of Representatives, 2009):

- Development and implementation of a comprehensive product support strategy for the weapon system;
- Providing appropriate cost analysis to validate the product support strategy, including cost-benefit analysis as outlined in *Office of Management and Budget Circular A-94*;
- Assuring achievement of desired product support outcomes through development and implementation of appropriate product support arrangements;
- Adjusting performance requirements and resource allocations across product support integrators and product support providers as necessary to optimize implementation of the product support strategy;
- The periodic review of product support arrangements between the product support integrators and product support providers to ensure the arrangements are consistent with the overall product support strategy; and
- Revalidating any business-case analysis performed in support of the product support strategy.

Section 805's enactment is intended to enhance competition while leveraging industry and government capabilities to avoid high product-support costs while improving



performance. More importantly, it begins to attack an important issue of acquisition reform: accountability. The DoD is currently preparing its implementation plan and report.

Based on recent market data, the Section 805 focus on competition for product support is well founded. Figure 2 presents the competitive nature of the sustainment market. As shown, several elements of sustainment are intensively competitive; however, spare parts continue to be a relatively non-competitive market. These data suggest that the DoD should focus on developing alternate sources for critical parts, rather than shortening the contract of existing PBLs to foster more recompetes.

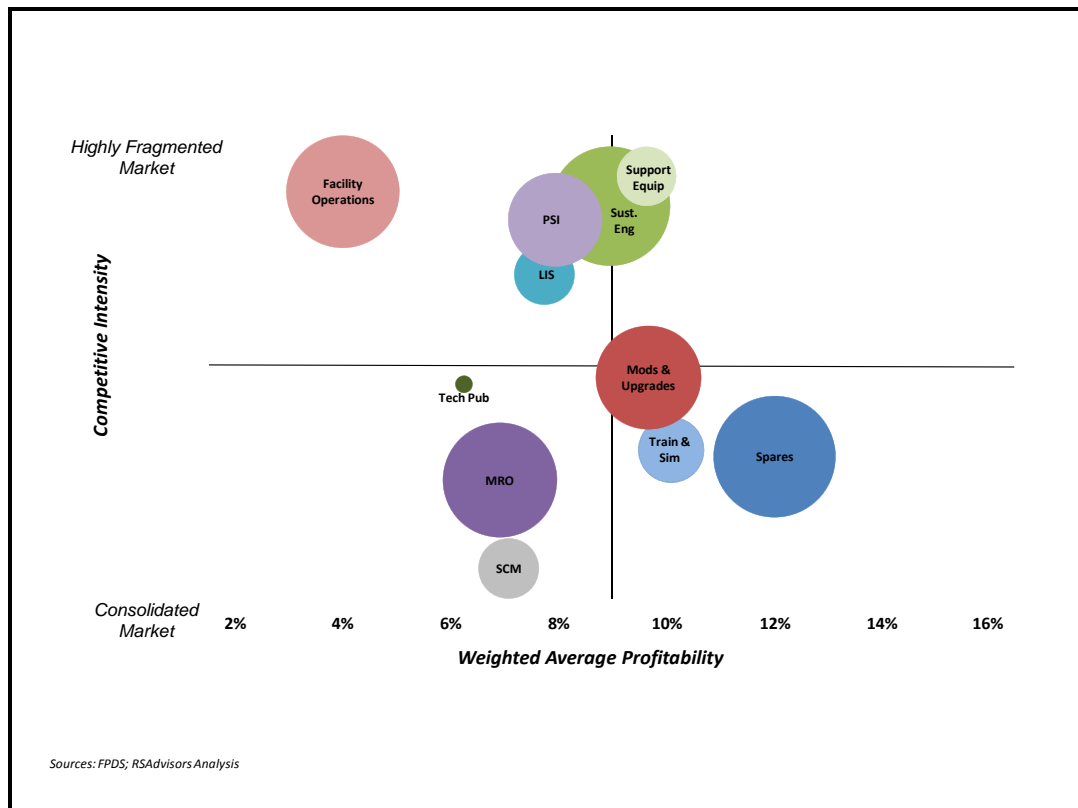


Figure 2. Competitive Product Support

The Defense Logistics Agency (DLA) is aggressively moving forward to achieve end-to-end supply chain management and foster greater competition. The Department of Defense (DoD) directs the largest and most complex supply chain in the world. The DoD spends at least \$150 billion a year on goods and services and their delivery to end users (Daily, 2005). DLA manages an inventory of tens of thousands of items, valued at approximately \$80 billion. The DoD supply chain also includes hundreds of original equipment manufacturers, many of which not only produce new items but also help support systems and platforms in the field (DLA, 2006).

USA's BRAC 2005 process recommended that the US Defense Logistics Agency privatize a series of product commodities, and eliminate the government's wholesale stock in key areas. These Commodity Management Privatization (CMP) activities take place with goals that include improved delivery and management, lower, more transparent cost of ownership, and a Strategic Supplier Alliance—an Umbrella partnering agreement defining



mutually beneficial objectives to improve logistics operations and warfighter support (DLA, 2006).

The Defense Supply Center Columbus (DSCC, DLA), the supply chain manager for tires, competitively awarded a contract worth \$368 million for aviation tires with Michelin for a base period of five years and an additional five-year option period, worth more than \$300 million. Under this contract, Michelin has the responsibility for procurement, storage, and distribution of these tires, as well as the disposal of scrap tires for CONUS locations and pick-up of re-treadable tires for CONUS and OCONUS locations.

The privatization effort of aircraft tires continues to save the customer and the DoD money on costs associated with procurement, storage, maintenance, and disposal by placing these requirements on Michelin. This privatization effort provides the warfighter direct benefits as they now receive their supplies from Michelin, who provides direct delivery of these commodities from their stock. As of Calendar 2009, Michelin and the DLA have delivered 9,235 orders for 26,636 tires, with the average delivery time of 1.97 days and a 98.9% on-time delivery rate. Program-to-date, the on-time delivery rate has been 98.5% and a 100% fill rate—with no backorders incurred and with a project annual savings of \$46 million (NSSC, 2009).

HASC Panel on Acquisition Reform

The House Armed Services Committee (HASC) Panel on Defense Acquisition Reform was appointed by Chairman Ike Skelton and then-Ranking Member John McHugh in March 2009 to carry out a comprehensive review of the defense acquisition system. The HASC review was motivated by the lack of responsive within the DoD acquisition system to today's mission needs, not rigorous enough in protecting taxpayers, and not disciplined enough in the acquisition of weapons systems for tomorrow's wars (HASC, 2010). The Panel took a year to perform its review, holding 12 hearings and numerous briefings covering a broad range of issues in defense acquisition.

The Panel found that while the environment of defense acquisition has significantly changed, the defense acquisition system has not, with the current acquisition system structured largely for the acquisition of weapon systems at a time when the acquisition of services, and of information technology, represents a much larger portion of the DoD budget. The Panel also reported that there is little commonality across the defense acquisition system with the acquisition of weapon systems, commercial goods, commodities, services, and information technology. The Panel recommended the following:

- A Rapid Acquisition Fielding Agency be created to meet urgent operational needs, and the "DoD and Congress should not accept development timelines routinely measured in double digits."
- Recognize accelerated life cycle for IT acquisition (including embedded software). Defense related IT systems are typically taking 2-3 years to deliver; a time-frame that ensures the technology is two to three generations out of date by the time it is delivered.
- Achieve auditable financial systems. The Panel recommended The Under Secretary of Defense (Comptroller) and the Comptrollers of the military departments should rely more on individual obligation and expenditure plans for measuring program financial performance.



- Expand outreach to commercial/small business. The Panel recommended improving competition and access to more innovative technology by utilizing more of the industrial base, especially small and mid-tier businesses.
- Enhance requirements process and analytics with “greater emphasis on the up-front market analysis to best leverage limited funds by buying good solutions from the commercial market when they are available, and husbanding resources for development for instances when there is no other provider.”

These recommendations directly enhance effects-based requirement, commercial-like R&D (for IT systems), and a healthy, competitive industrial base. The effect on these recommendations is dependent upon DoD implementation.

Initial Assessment

As summarized, Congress and the DoD initiated significant acquisition reform efforts simultaneously. As noted, several of the reform provisions are not strategically aligned. Furthermore, in some cases, DoD implementation has extended development and procurement timelines, demonstrating a lack of agility. Finally, DoD and congressional desires to expand the industrial base (to include more innovative, mid-sized companies) must be enabled by life cycle processes that foster greater private-sector involvement. Current reform efforts to expand oversight, extend development and test, and insource may actually inhibit greater commercial involvement.

Based upon these considerations, an initial assessment of the effect of current reform efforts on agility and affordability is shown in Table 2. As presented, across the numerous reform efforts, positive steps are being taken to address warfighter-focused requirements, commercial-like R&D for IT systems, and outcome-based sustainment. Unfortunately, these positive indicators are offset by other aspects of reform such as increased oversight, additional milestones, and expanded testing.



Table 2. Initial Assessment of Reform Efforts

Key Characteristics	WSARA	Insourcing	PSAT	Section 805	HASC Panel
Effects-based requirements	✓		✓		✓
Commercially- driven R&D	-				✓
Outcome-based partnership product support	-	-	✓	✓	-
Competitive industrial base	✓	-	✓	✓	✓
Enhanced DoD workforce	✓	-	✓	✓	✓

Recommendations

Based on this initial assessment of DoD acquisition reform policy efforts and their potential impact of those efforts on the inherent, structural incentives that are embedded in DoD life cycle processes, the following policy actions are recommended:

1. Accelerate requirement process reform: Incentivize industry to control requirements creep, select mature technologies for product integration, and develop solutions in an incremental and timely fashion with the timely and collaborative development of requirements and potential solutions at the commencement of the specific program. Increase requirements acceleration by increasing the reliance on commercially available systems and subsystems.
 1. Strategically balanced insourcing and desire for competitive industrial base: Implement and enforce a deliberate and systematic approach to insourcing based on facts and analysis, including business case analysis and the full consideration of inherently governmental positions, as well as core competencies. Simultaneously, the DoD needs to continue to cultivate partnerships with industry. If the DoD is to capitalize on a competitive commercial market, insourcing efforts must allow commercially knowledgeable acquisition personnel to join the federal workforce.
 2. Develop competitive sustainment framework consistent with NDAA, Section 805: Maximize the value of Department of Defense funding by providing the best possible product support outcomes at the lowest operations and support cost. This is achieved by providing guidance on life cycle management, to include the requirement for a product



support manager to consider competitive alternatives at the system, subsystem, and component level every five years.

3. Transition fielded systems to outcome-based sustainment: Implement an outcomes-based sustainment model and strengthen total life cycle systems management, Depot Maintenance Partnering, and Condition-Based Maintenance, enabling end-to-end weapon system support, providing required readiness at reduced costs.

As the United States advances into the 21st century, the DoD will continue to be faced with the challenge of maintaining a persistent expeditionary military presence while engaged in a long-term conflict. Victory in part, will be measured by the DoD's ability to effectively sustain and maintain equipment, while concurrently preserving its ability to display flexibility in meeting the evolving and changing operational conditions of irregular warfare and stateless actors. Furthermore, both the global economic environment and the requirements associated with growing competition for scarce resources generate conditions in which the DoD will have to do more with less.

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2003 - 2010 Sponsored Research Topics

Acquisition Management

- Acquiring Combat Capability via Public-Private Partnerships (PPPs)
- BCA: Contractor vs. Organic Growth
- Defense Industry Consolidation
- EU-US Defense Industrial Relationships
- Knowledge Value Added (KVA) + Real Options (RO) Applied to Shipyard Planning Processes
- Managing the Services Supply Chain
- MOSA Contracting Implications
- Portfolio Optimization via KVA + RO
- Private Military Sector
- Software Requirements for OA
- Spiral Development
- Strategy for Defense Acquisition Research
- The Software, Hardware Asset Reuse Enterprise (SHARE) repository

Contract Management

- Commodity Sourcing Strategies
- Contracting Government Procurement Functions
- Contractors in 21st-century Combat Zone
- Joint Contingency Contracting
- Model for Optimizing Contingency Contracting, Planning and Execution
- Navy Contract Writing Guide
- Past Performance in Source Selection
- Strategic Contingency Contracting
- Transforming DoD Contract Closeout
- USAF Energy Savings Performance Contracts
- USAF IT Commodity Council
- USMC Contingency Contracting

Financial Management

- Acquisitions via Leasing: MPS case
- Budget Scoring
- Budgeting for Capabilities-based Planning



- Capital Budgeting for the DoD
- Energy Saving Contracts/DoD Mobile Assets
- Financing DoD Budget via PPPs
- Lessons from Private Sector Capital Budgeting for DoD Acquisition Budgeting Reform
- PPPs and Government Financing
- ROI of Information Warfare Systems
- Special Termination Liability in MDAPs
- Strategic Sourcing
- Transaction Cost Economics (TCE) to Improve Cost Estimates

Human Resources

- Indefinite Reenlistment
- Individual Augmentation
- Learning Management Systems
- Moral Conduct Waivers and First-term Attrition
- Retention
- The Navy's Selective Reenlistment Bonus (SRB) Management System
- Tuition Assistance

Logistics Management

- Analysis of LAV Depot Maintenance
- Army LOG MOD
- ASDS Product Support Analysis
- Cold-chain Logistics
- Contractors Supporting Military Operations
- Diffusion/Variability on Vendor Performance Evaluation
- Evolutionary Acquisition
- Lean Six Sigma to Reduce Costs and Improve Readiness
- Naval Aviation Maintenance and Process Improvement (2)
- Optimizing CIWS Lifecycle Support (LCS)
- Outsourcing the Pearl Harbor MK-48 Intermediate Maintenance Activity
- Pallet Management System
- PBL (4)
- Privatization-NOSL/NAWCI
- RFID (6)



- Risk Analysis for Performance-based Logistics
- R-TOC AEGIS Microwave Power Tubes
- Sense-and-Respond Logistics Network
- Strategic Sourcing

Program Management

- Building Collaborative Capacity
- Business Process Reengineering (BPR) for LCS Mission Module Acquisition
- Collaborative IT Tools Leveraging Competence
- Contractor vs. Organic Support
- Knowledge, Responsibilities and Decision Rights in MDAPs
- KVA Applied to AEGIS and SSDS
- Managing the Service Supply Chain
- Measuring Uncertainty in Earned Value
- Organizational Modeling and Simulation
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Achieving Life Cycle Capability

12 May 2010

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Agenda

- **Background**
- **Acquisition Reform Efforts**
- **Key Characteristics of Agility/Affordability**
- **Recommendations**

Background*

- **Incremental acquisition reform over past 60 years**
- **National security environment demands greater agility and affordability**
- **Key recommendations to improve DoD life cycle:**
 - **Effects-based requirements**
 - **Commercially-driven research and development**
 - **Outcome-based partnership product support**

* “Achieving Outcome-Based Life Cycle Management”,
Defense Acquisition Reform Journal, Volume 17, February 2010

Key Characteristics of Agility/Affordability

- **Effects-based requirements**
- **Commercial-like R&D**
- **Outcome-based sustainment**
- **Competitive industrial base**
- **Robust life cycle workforce**

Acquisition Reform Efforts

- **Weapon System Acquisition Reform Act of 2009**
- **Insourcing**
- **Product Support Assessment Team**
- **2010 NDAA, Section 805**
- **HASC Panel on Defense Acquisition Reform**

Study Question: Will these reform efforts enable the agility and affordability the DoD requires?

Acquisition Reform Act 2009

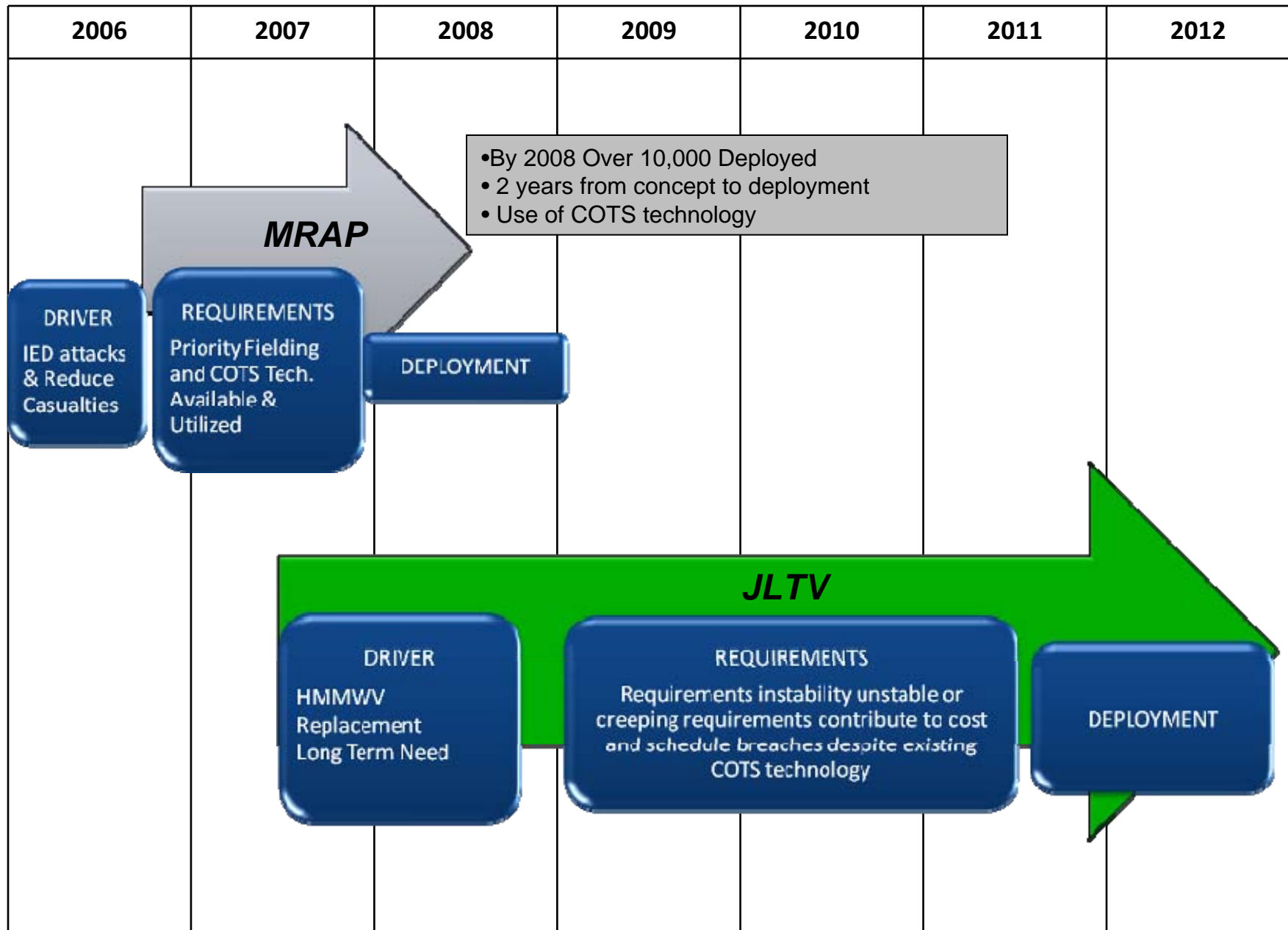
Acquisition Organization

- *System Engineering Capabilities*
- *Developmental Testing*
- *Technological Maturity Assessments*
- *Independent Cost Assessment*
- *Role of Combat Commanders*

Acquisition Policy

- *Trade-offs of Cost, Schedule and Performance*
- *Preliminary Design Review (PDR)*
- *Life Cycle Competition*
- *Nunn-McCurdy Breaches*
- *Organizational Conflicts of Interest*
- *Acquisition Excellence*

MRAP & JLTV Program Timelines



Unmanned Aerial Resupply



- Urgent USMC requirement
- Requirements driven by lift and endurance
- Competitive fly-off
- NAVAIR assessing acquisition strategy

Insourcing

- **Initial focus on critical acquisition skills**
- **Expanding to inherently governmental**
- **QDR expanded to combat support**
- **USAF expanding to sustainment support**

Insourcing

“In fact, we have initiated in-sourcing actions that replace sourced contracts with 2,500 Air Force contracts saving approximately \$970 million across FYDP”

-Michael

“Small S.A. firm wins fight to keep fed contract”

- David Hendricks
03/02/2010

services maybe sourced if a cost shows that DoD employees would do the work more effectively than the private sector contractor.”

-Deputy Secretary of Defense

the Air Force, Acquisition

“Rising DoD personnel costs have been highlighted as a so-far unchecked pressure on U.S. defense budgets”

-Robert Hale
DoD Comptroller

Product Support Assessment Team



- Balanced Government/Industry Partnerships
- Assured Outcomes and Accountability

F-22 Sustainment

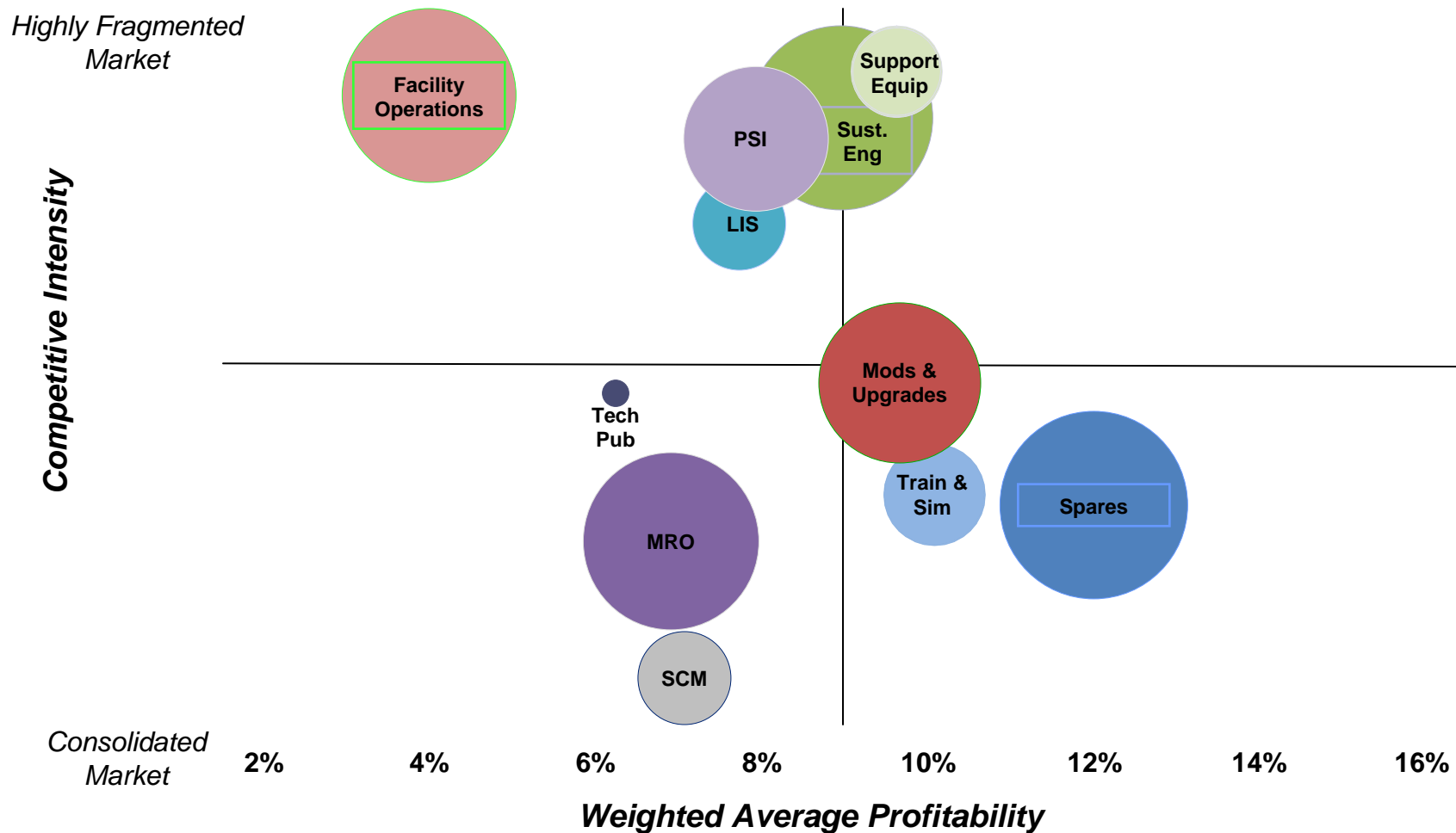


- Outcome-based
- Best from Government
- Best from Industry
- Sustained Air Dominance

2010 NDAA, Section 805

- **Stated preference for outcome-based sustainment**
- **Establishes DoD product support manager**
- **Increase competition in sustainment**
- **Further develop DOD workforce**

Competitive Product Support



Sources: FPDS; RSAdvisors Analysis

HASC Panel on Defense Acquisition Reform

- **Enhance requirements process and analytics**
- **Do not accept development timelines measured in double digits**
- **Recognize accelerated life cycle for IT acquisition (including embedded software)**
- **Achieve auditable financial systems**
- **Expand outreach to commercial/small business**

Characteristics of Agility/Affordability

Key Characteristics	WSARA	Insourcing	PSAT	Section 805	HASC Panel
Effects-based requirements	✓		✓		✓
Commercial-like R&D	-				✓
Outcome-based sustainment	-	-	✓	✓	-
Competitive industrial base	✓	-	✓	✓	✓
Enhanced DoD workforce	✓	-	✓	✓	✓

✓ = Positive Effect

- = Negative Effect

□ = Not Addressed

Recommendations

- **Accelerate requirement process reform**
- **Strategically balance insourcing and desire for competitive industrial base**
- **Develop competitive sustainment framework consistent with NDAA, Section 805**
- **Transition fielded systems to outcome-based sustainment**